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PROJECT DOCUMENT REVIEW RECORD

Document Title/Description: OU 3-14 Remedial Investigation/Feasibility Study Additional Soil Sites Summary Report (Draft)

Date: July 16, 2001 **Reviewer:** EPA

Item Number	Section Number	Page Number	Comment	Resolution
GENERAL COMMENTS—CPP-61				
1	CPP-61		Site CPP-61 was transferred to OU 3-14 because of concerns about possible PCB contamination remaining under the existing transformer pad. The information presented in the Additional Soil Sites Summary Report consists of cleanup guidelines that were drafted for use in addressing the PCB spill and construction logs and photographs used to document the process of soil excavation and backfill. This information appears to support the initial Track 1 no further action decision concerning PCB contamination. The cleanup guidelines state that soil "shall be removed to at least eight (8) inches below the deepest signs of contaminated oil or contamination greater than or equal to 10 ppm" and that the excavation "will also extend laterally at least three (3) feet beyond the area that is visibly contaminated." The guidelines also state that gravel on the east side of the pad where the spill was located would be excavated to 6 - 18 inches deep and placed in barrels for disposal. The guidelines go on to say that soil below 18 inches would be removed in 1 foot increments and segregated into piles until a determination could be made that the soil contained less than 10 ppm PCBs and could be used as backfill. Finally, the guidelines state that restoration of the site would be completed with the placement of a surface layer of "clean gravel to the level of the surrounding area."	

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	CPP-61 (continued)		The construction logs indicate that the guidelines for cleanup were followed. The July 8 - 12 entry reflects discussions about removal of contaminated gravel. The July 22 - 25 entries state that soil on the east side of the pad was excavated in 1 foot increments and that extensive excavation continued to the depth required for the new pad and in order to dislodge the foundation walls. The July 29 entry indicates that the lowest point of the excavation was analyzed for PCBs and the August 16 entry suggests that excavated soil was sampled prior to release as backfill. The information included in the cleanup guidelines and construction logs indicates that PCB concentrations in soil beneath the new transformer pad are at most 10 ppm. Pre-cleanup sampling results presented in Table 2-2 and sampling that occurred after cleanup as part of the OU 3-14 RI/BRA suggest that remaining contamination levels may be on the low end of this concentration range. Ignoring PCB concentrations found in surface soils that were disposed after cleanup, pre-cleanup sampling results show that the maximum PCB concentration at depth was 5.2 ppm and that many areas contained concentrations less than 0.5 ppm. Soil samples were taken after the cleanup to evaluate the extent of radioactive contamination as part of the OU 3-13 RI/BRA. The RI/BRA Report documents that a borehole was drilled as close as possible to the original PCB spill in the locations of the 1,000 and 1,500 cpm readings detected in 1985. The Additional Soil Sites Summary Report states that a hazardous waste determination was made for the IDW from the RI/BRA investigations and that only one sample showed detectable PCB concentration at less than or equal to 0.106 ppm.	

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	CPP-61 (continued)		The current TSCA PCB levels for non-restricted access locations is less than or equal to 10 ppm provided that there are clean surface soils (less than 1 ppm). Region IX PCB screening criteria for residential soil are as low as 0.22 ppm for integrated 10^{-6} cancer risk. Information presented in this Additional Soil Sites Summary Report would indicate that soil PCB concentrations are within this range.	Comment noted – Section 2.7.2 has been revised to provide this information.
SPECIFIC COMMENTS—CPP-61				
2	**Section 2.6, top paragraph, last sentence**	**Page 2-10**	The OU 3-13 RI/BRA Report shows the location of the radionuclide samples and provides analytical results, but does not discuss the results of the IDW hazardous waste determination. Please provide a copy of the IDW documentation "Raunig 1998" in this report.	Raunig 1998 has been added to Appendix A. The following sentence was added to the end of the paragraph: "The samples were returned to the point of origin based on the HWD."
3	**Section 2.7, bullet 3**	**Page 2-11**	It states here and in other parts of this section that the area of CPP-61 at INTEC will not likely ever be a residential area. The OU 3-13 ROD uses the assumption that land use could be residential after 2095. Why is the land use assumption different in this instance?	This bullet will be eliminated to be consistent with the residential use scenario after 2095 as identified in the WAG 3 ROD and WAG 3 Institutional Control Plan. Section 2.7.2 is revised to incorporate the information concerning the adequacy of the previous remediation.

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GENERAL COMMENTS—CPP-81				
4	CPP-81		Site CPP-81 was transferred to OU 3-14 because of concerns about possible trace compounds remaining in the VOG line after flushing out the calcine plug. The Additional Soil Sites Summary Report estimates the level of mercury currently present in the VOG line by considering mercury concentrations from past aluminum calcine runs and comparing this to the percent reduction of cadmium resulting from flushing out the calcine plug. This document also describes how the nature of pilot plant operations limits the possibility that organic contaminants would have been present in the VOG line. This information appears to support the initial Track 1 no further action decision concerning the presence of trace contaminants.	Comment noted.

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SPECIFIC COMMENTS—CPP-81				
5	Section 3.5.1, top bullet, second paragraph	Page 3-6	Please provide a copy of the documentation "Staiger 1999" which demonstrates that the mercury concentrations in the line would have contained at most 30% of the cadmium concentrations found in the calcine that formed the plug.	This section has been revised to provide information using information from the known levels of mercury in the fines of the Pilot Plant's simulated calcine. This information was obtained from Barry O'Brien, an INEEL engineer during Pilot Plant operation. O'Brien provided the reports on the calcine fines for those runs where mercury was added to the simulated calcine of the Pilot Plant. For conservatism, the highest level of mercury in the fines of the simulated calcine was used (20 ppm). Then, although this 20 ppm level would have been present only in trace quantities in the piping, it was assumed that this level of mercury contamination was throughout the material in the VOG line to provide further conservatism. Based on these conservative assumptions, the final levels of mercury following decontamination was then calculated, using the cadmium decontamination factor. This level is 0.004 mg/kg. The Staiger reference has been deleted and replaced with 2 references for the sample data of the fines for the Pilot Plant runs – B.J. Newby 1979 and B.J. Newby 1980.

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GENERAL COMMENTS—CPP-82				
6	CPP-82		Site CPP-82 was transferred to OU 3-14 for further evaluation. The information presented in the Additional Soil Sites Summary Report includes an account of pipe damage and spill cleanup as well as a description of process knowledge of pipe contents. The lack of sampling documentation following cleanup of the spill at location A, line PLA-776, makes it difficult to make a decision concerning the success of spill cleanup. Information about the spill at location B indicates that only the discharge from line XW-NL-129167 might be a cause for concern. The description of the discharge contents suggests that material was below RCRA hazardous waste levels, however, there is no supporting documentation. Information about the spill at location C indicates that only the discharge from line SWNH-110717 might be a cause for concern. Sampling of material discharged through this pipe during the month prior to the line rupture confirms that material in this line was nonhazardous.	Comments noted. Location A: It is acknowledged that post-cleanup sampling documentation for hazardous constituents is not available for Location A. However, as identified in Paragraph 1 of Section 4.2, "all contaminated soil above background... was collected and packaged for disposal..." The typical background at that time was 300 cpm beta-gamma. Due to the radiological contamination associated with the release, it is our opinion that a clean-up to background radiological levels would have also removed non-radiological contaminants such as metals that would have been associated with the release. Location B: The neutralized wastewater associated with this water purification system was sent to VES-FT-134 by way of a sump pump. This wastewater underwent neutralization in the vessel prior to discharged through XW-NL-129167. The amount of chemicals used to neutralize the wastewater prior to discharge fluctuated based on the initial basic or acidic (pH) concentration. Once the initial pH was determined, either Hydrochloric Acid or Sodium Hydroxide was added to neutralize the wastewater. This process neutralized the waste to enable discharge of a non-hazardous waste (with an adjusted pH) to the service waste system. Location C: Comment noted.

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SPECIFIC COMMENTS—CPP-82				
7	**Section 4.2, first paragraph**	**Page 4-1**	Can the levels of radioactivity measured in cpm (300 cpm background; 20,000 cpm spill) be approximately compared to levels of radioactivity in pCi/g Cs-137 for risk comparison purposes?	INEEL radiological support personnel have advised that based on the information available, it is not practical to convert cpm results to quantitative levels of a specific radionuclide. This is due to the numerous variables and unknowns such as the ratio of the beta/gamma emitting constituents in the water at that time, the distance the equipment was held from the material while monitoring, the sensitivity of the equipment, depth of absorption into the soil, area of the release, etc.
8	**Section 4.3, top bullet, second paragraph**	**Page 4-7**	Is there any documentation of chemical amounts used to neutralize the contents of the discharge in line XW-NL-129167?	See response to Comment #6, Location B.